

Minutes of the ISOLDE Physics Group Meeting, September 7th 2016

There were no comments to the minutes of the previous physics group meeting.

Technical news

- **GPS**

- The target for first HIE-ISOLDE run of the year was installed on Friday.
- The total initial beam from the target unit was high at 300 nA, which posed problems with beam extraction. The extraction electrode position was changed from 90 mm to 70 mm and later back to 90 mm.
- There were also some problems moving the extraction electrode, eventually solved by the intervention of the expert, although the cause is not clear.

- **HRS**

- HRS was running until Monday morning, delivering laser-ionized bismuth beams to COLLAPS and ISOLTRAP (see Physics and Schedule).
- There were some difficulties starting the tape station for the proton scan. Initially it was thought that something is wrong with the tape station, but it turned out that it is the CA0-KI10-V which was only applying half of the set voltage.

- **HIE-ISOLDE**

- Over the week-end stable beam was sent to Miniball at 2.85 MeV/u for setting up. Unfortunately, although the beam was supposed to be ^{22}Ne , on Monday it was realized that it is in fact ^{40}Ar . The two beams were almost overlapping in the diagnostics and the wrong peak was selected. The correct beam was sent to Miniball Monday night.

- **REX**

- There were many trips of the RF amplifier of the RFQ over the week-end. The RF tube of the RFQ was eventually replaced, but the whole REX machine had to be retuned afterwards.
- There were problems injecting beam into the EBIS. Eventually a workaround was found but the used settings have unusual values. This is peculiar because in the past checks of the EBIS everything seemed to be fine.

- **Targets**

- The LaC target for the Miniball run is online on GPS. There were some questions concerning whether the carburization of the target hadn't been performed too fast. Nevertheless, preliminary total currents are comparable to previous runs. To be checked with radioactive beam.

- **RILIS**

- There were no major problems with the ionization of Bi for COLLAPS and ISOLTRAP.
- RILIS team requested a better documentation of the target tests performed before the target is put on-line, to have as reference and to avoid redundancy in on-line tests.
- Questions were raised concerning whether the large beam produced by the GPS target could affect the ionization efficiency of the Sn beam.

Physics and schedule

- The Bi run on HRS, involving RILIS, COLLAPS and ISOLTRAP, ended on Monday morning. The run first ruled out the possible existence of new isomers in ^{201}Bi by high-resolution collinear laser spectroscopy and mass spectrometry. It was found that the signs of a new isomer observed at ISOLTRAP in June were in fact frequency shifts in the Penning-trap resonances.

The run continued by a number of COLLAPS high-resolution measurements, which will help analyse the in-source data from June (IS608). Some more in-source spectroscopy scans were also performed with RILIS and ISOLTRAP.

- ^{110}Sn will be delivered to Miniball in the first HIE-ISOLDE run of the year until Tuesday, when there will be a two-day technical stop, meant to address the proton-source problem of Linac2. At the same time there will be a CERN-wide upgrade of controls, which might cause problems for HIE-ISOLDE switching between ^{110}Sn and the next isotopes of interest.

Safety

- No information.

Visits

- A group of KU Leuven students will be visiting ISOLDE on Friday.
- There will be a VIP visit of the Finnish Minister of Science next week.

AOB

- September 8th is the Jeune Genevois holiday, which is specific to the Geneva region (including CERN).
- On September 19th there will be a day off in the rest of Switzerland, but not at CERN. On this day liquid nitrogen deliveries will not be carried out.
- Some people were contacted for organizing a CERN video of the ISOLDE facility, which will include interviews of some of the researchers on site.
- Bertram Blank from CEN Bordeaux-Gradignan has joined ISOLDE as an Associate.

Seminar

- The meeting was followed by a summer student talk of Christopher Ricketts from CRIS with the title *Versatile ion source for CRIS* and the seminar of Daniel Lascar from TITAN@TRIUMF on *Recent TITAN Measurements and EMMATrap: An Introduction*

Next PG meeting will be held Wednesday September 14th at 14:00, followed by two summer-student talks by Jindaratsamee Phrompao (IDS) and Paula Aschenbrenner (VITO) and the seminar of Bertram Blank from CEN Bordeaux-Gradignan with the title *New plans for Witch*.

Minutes taken by VM